

**(19) World Intellectual Property  
Organization  
International Bureau**



**(43) International Publication Date**  
**1 April 2004 (01.04.2004)**

## PCT

**(10) International Publication Number**  
**WO 2004/026441 A1**

**(51) International Patent Classification<sup>7</sup>:** B01D 53/14

**(21) International Application Number:** PCT/US2002/029810

**(22) International Filing Date:**  
17 September 2002 (17.09.2002)

(25) Filing Language: English

(26) **Publication Language:** English

**(71) Applicant (for all designated States except US): FLUOR CORPORATION [US/US]; One Enterprise Drive, Aliso Viejo, CA 92656 (US).**

**(72) Inventor; and**

(75) **Inventor/Applicant (for US only): MAK, John [US/US];**  
**Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA**  
**92656 (US).**

(74) **Agent: FESSENMAIER, Martin;** Rutan & Tucker, LLP,  
611 Anton Blvd., 14th Floor, P.O. Box 1950, Costa Mesa,  
CA 92626 (US).

**(81) Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

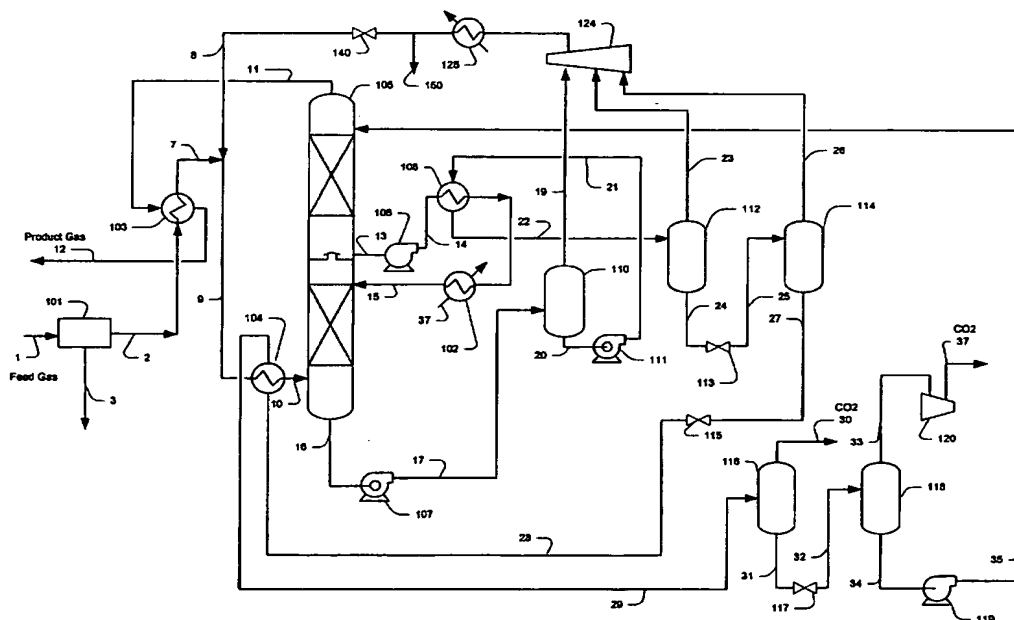
**(84) Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(54) Title:** CONFIGURATIONS AND METHODS OF ACID GAS REMOVAL



**(57) Abstract:** A plant includes an absorber (105) that receives a feed gas (10) at a pressure of at least 400 psig and comprising at least 5 mol% carbon dioxide, wherein the absorber (105) is operated at an isothermal or decreasing top -to-bottom thermal gradient, and wherein the absorber (105) employs a physical solvent to at least partially remove an acid gas from the feed gas (10). Such configuration advantageously provide cooling (108) by expansion of the rich solvent (21) generated in the absorber (105), wherein both a semi-rich solvent (13) generated and recycled to the absorber (105) and the feed gas (10) are cooled by expansion of the rich solvent (21).

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**WO 2004/026441 A1**